17 December 2015 - Forecast expects 2016 to be among the warmest years

The global mean temperature for 2016 is expected to be between 0.72 °C and 0.96 °C above the long-term (1961-1990) average of 14.0 °C, with a central estimate of 0.84 °C, according to the Met Office annual global temperature forecast.

Using the 1981-2010 long-term average of 14.3 °C, the range is between 0.41 °C and 0.65 °C, with a central estimate of 0.53 °C above the 1981-2010 long-term mean.

Professor Chris Folland, Met Office research fellow, said: "2015 is on track to be the warmest year on record, and this forecast suggests 2016 is likely to be at least as warm, if not warmer."

Man-made global warming, combined with a smaller effect from El Niño from unusually warm waters in the tropical Pacific Ocean feature within our forecast. The forecast is based on the key drivers of global climate, but it doesn't include random events, such as large volcanic eruptions - which can cause a temporary cooling effect.

The outlook for 2016 is warmer than the Met Office's forecast for 2015, which had a range of 0.52 °C to 0.76 °C and a central estimate of 0.64 °C (using the 1961-1990 long-term average). Data from Jan-Oct shows the global mean temperature for this year so far is 0.72 °C [note 2] (+/- 0.1 °C).

As the table below indicates, the forecast for 2016 - including the range of uncertainties - also places the coming year among the warmest on record. The fact that 2014, 2015 and 2016 are all likely to be amongst the warmest years on record is also consistent with the outlook given in the Met Office research news article from earlier this year.

Professor Adam Scaife, head of long-range prediction at the Met Office, said: "This forecast suggests that by the end of 2016 we will have seen three record, or near-record years in a row for global temperatures."

The Met Office doesn't expect this run of back-to-back records continue indefinitely, but the current situation shows how global warming can combine with smaller, natural fluctuations to push our climate to levels of warmth which are unprecedented in the data records.

Global average temperature anomalies for the last 20 years

	WMO global average temperature anomaly (+/- 0.1 °C) compared to:	
Year	**1961 - 1990 average**	**1981 - 2010 average**
2015	0.72 (Jan - Oct)	0.41
2014	0.61	0.30
2013	0.53	0.22
2012	0.50	0.19
2011	0.46	0.15
2010	0.59	0.28
2009	0.52	0.21
2008	0.42	0.11
2007	0.51	0.20
2006	0.51	0.20
2005	0.56	0.25
2004	0.45	0.14
2003	0.51	0.20
2002	0.50	0.19
2001	0.44	0.13
2000	0.31	0.00
1999	0.32	0.00
1998	0.53	0.22
1997	0.39	0.08
1996	0.21	-0.10

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